Guidelines for Writing a Hazardous Waste Health Profile

The completed health profile should take the form of a scientific paper. This type of paper is composed of four distinctive parts--Introduction, Methods, Results, and Discussion. The following outline describes what is expected in each of these four parts and is to be used as a guide in writing the text of the profile.

- I. Introduction--states the purpose of the health profile
 - A. Health profiles are required by RSMo 260.395.7.(5). as part of the hazardous waste permit required by the Department of Natural Resources.
 - B. The purpose of the profile is to outline and identify the substances that will be routinely handled (treated, disposed, etc.) at the facility and the human health effects associated with exposure to these substances so that changes in these specific health effects can be monitored over time.
 - C. Identify the three geographic areas of data that will be examined (the state, the county(ies) the facility is located in, and the selected zip-codes which represent the population at risk) and the purpose of the three geographic areas (to compare the health status of the population at risk with that of the county and state).
- II. Methods--includes information that aids the reviewers in understanding how certain items in the profile were derived
 - A. Enclose a map which identifies the location of the site in relation to street, zip-code boundaries, and county boundaries (topographical and political maps, for example, are also helpful in determining wind direction and influence, the location of the population at risk, and local topographical conditions that may affect exposure).
 - B. A windrose diagram must also be enclosed. This diagram aids in determining the population at risk and must be from a point near the site. For example, if the site was in Barton county, the wind directions and speed charted would more closely represent the site if it came from Joplin or Nevada rather than Kansas City.
 - C. The rationale behind the choosing of the selected zip-codes.
 - D. A listing of the various substances that will be routinely handled at the facility, their health effects and their specific ICD-9 codes (International Classification of Diseases—Ninth Edition), and any references used to justify the selection of the health effects.
 - E. Any formulas that were used in the profile to calculate additional rates or statistical tests, other than those used by the Missouri Department of Health.

- III. Results--includes the data provided and any summary tables
 - A. The tables that are provided by the Missouri Department of Health are to be labeled (ie., birth, death, hospital discharge, and malformation data).
 - B. Summarize in narrative form the rates of diseases or conditions that are significantly high for the selected zip-code area compared with rates of both state and county(ies).
 - C. The results of any additional calculations that may be performed.
- IV. Discussion-show relationships among observed facts
 - A. The data in the tables should be clearly and concisely discussed and interpreted.
 - B. Any significantly high rate for the site must be noted and possible reasons for the high rate need to be discussed.
 - C. Compare and contrast the findings between two different data sets that deal with the same type of event. For example, are cancer rates on hospital discharge consistent with cancer death rates.
 - D. The quality of data issues need to be addressed. For example, is the data presented in the tables representative of the true population at risk, or is there a chance that the data contains errors--such as in the diagnosis of diseases or causes of deaths.
 - E. Do not repeat the data shown in the Results section. Instead, present the relationships and generalizations shown by the data.

- 3. All hazardous wastes accepted for disposal shall be listed in the permit application in accordance with 40 CFR 270.13(j) as incorporated by reference in 10 CSR 25-7.270. In addition, departmental approval of individual waste streams may be required prior to allowing the disposal of the waste streams in the landfill.
- 4. Wastes having a true wapor pressure greater than seventy-eight millimeters of mercury (78 mm Hg) at twenty-five degrees Celsius (25°C) are volatile wastes and shall not be landfilled.

(O) Incinerators. This subsection sets forth standards which modify or add to those requirements in 40 CFR Part 264 Subpart O.

1. Sampling methods to determine compliance with 40 CFR 264.343-incorporated in this rule will be specified by the department in the permit and shall consist of any of the following methods:

A. The methods described in the Engineering Handbook for Hazardous Waste Incineration, SW-889, by the United States

EPA or equivalent; or

- B. The methods specified in 40 CFR Part 60 Appendix A (July 1, 1989). For facilities subject to paragraph (2)(O)2. of this rule, the methods referenced in this paragraph shall be used exclusively to determine compliance with the emission limitations required in this subsection.
- 2. The provisions of 40 CFR Part 60 Subpart E, July 1, 1989 shall apply and are incorporated by reference as part of this rule. An owner/operator of a hazardous waste incinerator which is regulated under the New Source Performance Standards in that subpart shall comply with the provisions in addition to complying with all other applicable provisions in this rule.
- 3. Where emission limitations found in both paragraph (2)(O)2. of this rule and in another provision of this rule are applicable to a hazardous waste incinerator, the more stringent shall control.

(P) Health Profiles.

I. An owner/operator shall submit a health profile, as required by section 260.395.7(5), RSMo, with the application for a hazardous waste treatment or disposal facility. A health profile shall include efforts to identify any and all serious illnesses, the rate of which exceeds the state average for the illnesses, which might be attributable to environmental contamination. A serious illness is one which may cause or significantly contribute to an increase in mortality or an increase in reversible or irreversible incapacitating effects on the health of humans. An owner/operator shall consult the Missouri Department of Health regarding appropriate

factors to be included in the profile prior to initiating the health profile.

A. The health profile shall address five (5) main sources of data as listed and shall take into consideration-

(I) The population density around the site, as indicated by the most current census data:

(II) Mortality, as indicated by death certificate information;

(III) Incidence, as indicated by the State Cancer Registry,

(IV) Natality, as indicated by fetal death and birth certificate information; and

(V) Morbidity, as indicated by hos-

pital discharge information.

- B. The Division of Workers' Compensation shall be consulted for a description of the routes of occupational exposure and the occupational health effects on workers at like facilities.
- C. Conditions reflecting routes of exposure shall be included in the report for all hazardous wastes to be treated or disposed of at the facility.

D. The discussion of measurements of health characteristics shall focus on comparisons between state, county and site-specific

E. Site-specific rates shall include a geographic area of an approximate three to five (3-5) mile radius around the site. Geographic areas of larger or smaller size may be used, where approved by the department, and shall reflect the risks on a representative population. Only Missouri data is required for any site where the three to five (3-5) mile radius extends into another state.

(I) For incinerators, special consideration shall be given to wind roses for each season with distinct meteorological conditions. In addition, calculated effluent plume paths, including areas of maximum impact and width and length of plume at ground level. should be presented.

(II) After analysis of the data required in this section, modification of the site-specific geographic area from which disease rates will be computed may be necessary with respect to the previously mentioned three to five (3-5) mile radius around the site.

F. A minimum of five (5) years' data shall be required for a statistical analysis and averaging of rate computations. Qualitative technical difficulties in data resulting in time periods of less than five (5) years shall be fully explained and justified in the text of the report.

2. This paragraph sets forth requirements which shall be met subsequent to the initial application.

A. A health profile shall be part of each request for permit renewal.

- B. Additional epidemiological investigations may be required when the rate of any illness in the area described in subparagraph (2)(P)1.E. of this rule exceeds the state average for that illness.
- (Q) Treatment Facilities. (Reserved)

(R) (Reserved)

(S) (Reserved)

(T) (Reserved)

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(W) (Reserved)

(X) This subsection sets forth requirements in addition to 40 CFR Part 264 Subpart X incorporated in this rule.

1. A facility which continuously feeds hazardous waste into the treatment process shall be equipped with an automatic waste feed cutoff or a bypass system that is activated when a malfunction in the treatment process occurs. A bypass system shall return hazardons wastefeed to storage and shall not allow a discharge or release of bazardous waste.

2. Residuals of by-products from a treatment process (for example, sludges, spent resins) shall be analyzed during a trial period to determine the effectiveness of the treatment

Drocess.

(Y) (Reserved) (Z) (Reserved)

(AA) Air Emission Standards for Process Vents. (Reserved)

(BB) Air Emission Standards for Equipment Lenks. (Reserved)

Auth: sections 260.370 RSMo (Cum. Supp. 1990) and 260.437, RSMo (1986). Original rule filed Dec. 16, 1985, effective Oct. 1, 1986. Amended: Filed Aug. 14, 1986, effective Jan. 1, 1987. Amended: Filed Feb. 3, 1987, effective Aug. 1, 1987. Amended: Filed Dec. 1, 1987, effective Aug. 12, 1988. Amended: Filed Feb. 16, 1990, effective Dec. 31, 1990. Amended: Filed Jan. 15, 1991, effective Aug. 1, 1991.

10 CSR 25-7.265 Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities

PURPOSE: This rule incorporates 40 CFR Part 265 by reference and sets forth additional state standards,

Editor's Note: The secretary of state has determined that the publication of this rule in its entirety would be unduly cumbersome or expensive. The entire text of the material referenced has been filed with the secretary of state. This material may be found at the Office of the Secretary of State or at the

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Burns & MCDonnell

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Kerr-McCee Chemical Corporation Attn: Mr. N. Bock Kerr-McCee Center

P.O. Box 25851 Oklahoma Ci++- CK 73125 February 21, 1992

Project 91-382-4-00 F Invoice No. 1 4

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# Burns & MCDonnell Engineers Anchinects Consultains

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Kerr-McGee Chemical Corporation Attn Dr John Glbb Kerr-McGee Center P O Box 25861 Cklahoma City OK 23125 March 20, 4992

Project 91-382-4-001 Invoice No. 7

Engineering services in connection with Health Proffle, Kansas City, Missourl Facility, in accordance with terms of Agreement dated November 13, 1991:

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Remittance Address
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KANSAS CITY, MISSOURI 64141-1883

Correspondence Auchers 4800 EAST 63:d6 STERET POST OFFICE BOX 4:19173 KANSAS CITY, MISSOURI 64:141-0173 TELEPHONE 8:16-333-4375 July 31, 1992

Kerr-McGee Chemical Corporation Attn Dr John Gibb Kerr-McGee Center P O Box 25861 Oktohoma City OK 73125 Project 91-382-4-001. Invoice No. 3.

Engineering services in connection with Health Profile, Kansas City. Missouri Facility, in accordance with terms of Agreement dated November 13, 1991:

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# MISSOURI DEPARTMENT OF HEALTH DOCUMENT INVOICE

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APPENDIX E

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### QR Review - Review of Reports and Studies

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# QR Review - Review of Reports and Studies (Continuation Sheet)

Date 5,6,92	Project Number: 91-382-4-60
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An observation is a suggested comment or change.
A finding is a recommended comment or change. It requires a response, which shall be noted under "Action Taken".

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### QR Review - Review of Reports and Studies

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## QR Review - Review of Reports and Studies (Continuation Sheet)

TC = Table of Contents

Date 5, 6, 92	Project Number: M 91 382 4 - 00 /	
	Reviewer C Calbert	-

Fig., Table, Sect.,	Cmnt.	Comments	Obsv.	Find.	Action	Ву
Or Page No.	No.		*	* *	Taken	(Init.)
T assun	16	Various correction already 11 be made & checked for				<u> </u>
harked	w	Il be made & checked f	hr-	Low	pletion	1
					•	ļ
TC-1		May want to put in		•	Incorp	SLM
		Subheadings.			Subs	
	2	Subheadings. Double Space Appendic	25 ~	-	Noted	"
		<b>'</b>			·	
TC-Z	3	Leave Out Where figures				
		are - they'll find them			Revised	73
TC-3	4				7 1	**
	5a	Switch order of phrases into	Ke V	-	"	•1
<u> </u>	5b	Subheadings should				
***************************************		have decimal point a			- 6 b	14
3	6	humber Sulp-headings				
		2.1 Selection of Study area		/	4	7
4	7	2.2 Hazardous Substances			-1	77
5	8	applicative A attached		~	Noted	P1
5	9	Change Sub-leading		1	Revised	"
6	10	add Bearing to Sulphrading	ابد		• •	7
		Change TC			"	٠,
7		Lose colon put decimal			۶ı	.,
		hunters by Sul- Leadings			*4	7
	12	Change Tc, Appendix B not	here		" /NOTED	•/
8	13	Same	.			
8	14	Appendix C not attached			NOTED	7
8		Appendix D not attached		-	*	-
:9	16	Appendix E not attached		-		7
9	17	Various changes for clarity			REVISED	11
10	18	Put Nos on subheadings,		-	11	7
		Put subheadings in TC, lose				
		colon				

#### Cmnt.1 - Comment

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<sup>\*\*</sup> A finding is a recommended comment or change. It requires a response, which shall be noted under "Action Taken".

## QR Review – Review of Reports and Studies (Continuation Sheet)

Date 516192	Project No.:	M91 382-4-001
	Reviewer:	Charles Colbert

Fig.,Table,Sect.,	Cmnt.	Comments	Obsv.	Find,	Action	Ву
Or Page No.	No.		l •		Taken	(înit.)
16	19	Put space in Jelone	<b>-</b>	レ	Revised	SLM
		Respiratory Camer				
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. 11		Put numbers on sub-bookings		-	11	
	l	Put Sulpheadings un TC,				
. 1	20	PAH or PAHs see page	·		Noted	
<del></del>		4 -			· Sotted	· <del>'</del> -
12	Ī	Socioeconomie status				
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Table 6	21	Anomalies misspelled			Revised	-,
13	32			<u> </u>	,,	-,
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13	23	10th line delete for			` <u>,</u>	<u> </u>
13	24			-	Noted	,
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REF-I	25		1		Noted	1
		citation & single space -		:		
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Fig. 1	26		-		Noted	*,
1.19	- 5	Forest products needs a little			1,001(04	
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Fig. Z	4	nceds to be CAD'd in			<u> Krvisea</u>	<u> </u>
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2. 3	28	Forest Products Div. Facility		<del>,  </del>		1
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tio A	29	Pretty faint Same - White Out on		$\rightarrow$	1	η
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Cmnt.' -Comment

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### QR Review - Review of Reports and Studies (Continuation Sheet)

Date / /	Project No.:	M91 382 4 601
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Fig., Table, Sect.,	Cmnt.1	Comments .	Obsv.	Find.	Action	Ву
Or Page No.	No.	111 7	•	••	Taken	(Init.)
Tablez	30	Insert "Stage", put "sites" in lower case		<u> </u>	Revised	.,
		"sites" in lower case		,		<u>L</u>
Table 3	31	Would it be better to say	<i></i>		NOTED	
		Circhasis w/a evidence				<u> </u>
		of chronic Etalt use				·
Table 4	32	Enme				
Table 7	33	Add 25+ "years of age"	سسا		1)	7
AppendixA	-E	Add Name of Appendix			1,	64
Fly Sheets	34	Add Name of Appendix below Appendix A,BC,DE			-	
Massa Had	35	Hea Rold Hanling			REVISED	1
Pippenatki	7.7	Use Bold Headings as in Mercar County Facilty Profile			14 001 261	-7
		Facilty Profile				
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Cmnt.1 -Comment

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\* A finding is a recommended comment or change. It requires a response, which shall be noted under "Action Taken".